

ADOPTION AND INFORMATION SEEKING BEHAVIOUR OF OKRA GROWERS IN HOMESTEADS

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ABSTRACT

Ensuring sustainability in production relies significantly on the provision of accurate information at the appropriate time and location. The information seeking behaviour can significantly influence the decision making and adoption process. It is imperative to acquire an understanding of farmers' information-seeking behavior, as it plays a crucial role in restructuring existing agricultural information systems and formulating novel models. Keeping this in view, a study was conducted among 120 okra growing homesteads of Kollam district in Kerala. The main focus of the study was to identify the adoption and information seeking behaviour of okra growers in the homesteads. Scientific practices for okra cultivation were enlisted and ranked separately based on the adoption score. The results showed that commonly adopted scientific cultivation practices in okra crop were soaking of seeds in water for 24 hours for ensuring better germination, application of recommended dose of farmyard manure as basal dose and varieties released from Kerala Agricultural University. The findings also pointed that majority of the respondents had medium to high level information seeking behaviour. Among various sources, majority of the growers preferred informal sources more than other formal sources. In case of mass media sources, highest dependency was noticed for newspapers and television.

Keywords: adoption, cultivation practices, homesteads, information seeking behaviour, okra production

INTRODUCTION

In the field of agriculture, the significance of information cannot be overstated when it comes to enhancing agricultural development. Information plays a pivotal role in boosting agricultural production and enhancing marketing and distribution of agricultural commodities. Agricultural extension heavily depends on the exchange of information among farmers (Rehman, 2013; Anusha et al., 2023). Agricultural information can be described as any information, whether oral or written, tangible or digital, pertaining to various aspects of the agricultural system that aids farmers in their decision-making process. This information is fundamental in influencing the adoption of various production practices (Abraham and Arunachalam, 2021). Adoption is a process of making a dynamic decision to fully utilise an innovation as the best option available (Abhishek et al., 2023). Information seeking behaviour pertains to the inclination of individuals towards locating diverse information sources and utilizing the provided information in various contexts. It encompasses information retrieval, emphasizing the importance of recognizing the necessity to

seek information and the process of utilizing it (Kumar et al., 2022). In the present era of information and technology, the distribution of information has become more streamlined yet intricate. This is attributed to the necessity of disseminating information to farmers in suitable manners and methods that effectively support its recipients. Providing right information at the right time at the right place is crucial for ensuring sustainability in production. Thus, gaining a comprehension of information seeking behaviour of farmers are crucial for the reorganization of current agricultural information systems as well as the development of new models (Mahindaratne and Min, 2018).

The homestead systems of cultivation are one of the unique features of Kerala agriculture system (Chandran et al., 2023). They serve as a viable means to ensure the nutritional and food security of farming households. Normally, the selection of crops in household vegetable gardens is customized to the tastes of the respective families. Okra, also known as bhindi, is a vegetable crop of great commercial significance that is widely cultivated across India. It is a key component in the household gardens of Kerala. It contributes

essential nutrients such as lipids, proteins, carbohydrates, vitamins, and minerals to a balanced diet. Moreover, its mucilaginous properties make it suitable for various medical and commercial applications. These advantages have reignited farmers' interest in the commercialization of this crop (Benchasri, 2012). Overall, okra is perceived as a convenient, cost-efficient vegetable crop rich in diverse dietary components and potential health benefits (Elkhalifa, 2021).

The homestead system of farming is also susceptible to uncertainties such as pest infestations, diseases, and the impacts of climate changes etc. Hence, like commercial farming, the implementation of scientific methods in production is crucial to optimize yields. However, it has been observed that generally the level of adoption of scientific practices in homesteads tends to be moderate (Chandran and Podikunju, 2020) in homesteads. There are several factors that affect adoption behaviour, among these, one's information seeking behaviour has a significant influence on their adoption behaviour. In this context a study was conducted in the homesteads of Kollam district to evaluate the levels of adoption of scientific farming practices in okra cultivation and the information-seeking behaviors of okra cultivators in homesteads. When aiming to communicate information to any farmers, it is apparent that priority should be given to those frequently used channels for distribution, thus enabling improved accessibility to the farming community. Hence, the findings help extension agencies in creating more effective strategies for conveying information directly to farmers and encouraging the adoption of scientific farming methods in homesteads. Thus, overall productivity and profitability can be enhanced.

OBJECTIVES

- (1) To understand the adoption behaviour of homestead growers in okra cultivation
- (2) To measure the information seeking behaviour of homestead growers
- (3) To analyze the frequency of exposure of homestead growers towards various information sources
- (4) To identify the factors affecting information seeking behaviour of okra growers

METHODOLOGY

This study was conducted in the 120 homesteads of Kollam district, Kerala. Ex post facto research design was used in this study. Two Agro Ecological Units (AEU 9 and AEU 12) were purposefully selected based on the highest

vegetable production in the district. A total of six panchayats were selected purposively from the two selected AEU's and a list of homestead vegetable cultivators with a plot size of 0.1- 0.5 hectares in each selected panchayat was compiled separately. Based on the lists, 20 homesteads were randomly chosen from each panchayat.

The adoption behaviour of homestead okra growers was analyzed based on the adoption score. For getting the score, a list of recommended scientific cultivation practices was enlisted for the selected crop. Total adoption score was calculated for each practices separately. For analysing the information seeking behaviour the scoring procedure followed by Mankai (2005) was modified and used in the study. In this scale the responses were collected on a five-point continuum, with scores ranging from 5 to 1 for 'regularly' to 'never'. An attempt was also made to identify the frequency of exposure to various information sources and the factors that affect the information seeking behaviour of okra growers in homesteads.

RESULTS AND DISCUSSION

Information seeking behaviour is very important and had direct impact on the knowledge and adoption levels of the respondents. Keeping this in view, an attempt was made to identify the extent of adoption of scientific cultivation practices and information seeking behaviour of homestead okra growers. The results were presented under three subheadings as shown below:

Adoption scores of respondents on recommended practices in Okra cultivation

The adoption behaviour of homestead growers in okra cultivation were identified based on the adoption score obtained for each recommended scientific cultivation practices and the results were given below (Table 1).

The figures in Table 1, clearly pointed out the extent of adoption of various scientific production practices in okra. Majority of the farmers were soaking okra of seeds for 24 hours in water (Adoption Score 350). It was also found that majority of the growers were correctly applying the recommended quantity of farmyard manure (AS 340) as basal dose and they had a high preference on varieties released by Kerala Agricultural University (AS 328). The results also revealed that most of the homestead okra growers try to avoid cultivating okra on the same piece of land (AS 310). The other practices which had a higher adoption rate were maintaining proper spacing between crop (AS 310), time of conducting weeding (AS 290) and seed rate (AS 260). Among the recommended cultivation practices, the least adoption was noticed for practices like application of *Bacillus macerans* or *B. circulans* before

sowing to control root knot nematode (AS 160), not seasonal consideration for cultivating okra (AS 170), application of chemical weedicides (AS 180) and fungicides Bavistin (AS 190).

Table 1: Adoption scores of respondents on recommended practices in okra cultivation

(n=120)

Sr. No.	Vegetable practices of okra	Adoption Score	Rank
1	Spacing is 60 X 30-45 cm	310	5
2	Varieties are Salkeerthi, Kiran, Aruna, Susthira	328	3
3	Feb – March, June- July, October – November is the ideal cropping season	170	12
4	Seed rate is 7- 8.5 Kg/ ha	260	7
5	Storage of seeds in polythene cover to increase storage life up to 7 months.	240	9
6	Soaking of seeds for 24 hrs in water for better germination	350	1
7	Soaking seeds in a solution of Bavistin @ 0.2% for 6 hours and drying under shade before sowing to reduce attack of soil borne fungus.	190	10
8	FYM @ 25 t/ha as basal dose	340	2
9	First weeding is done @seedlings are 2 weeks old and subsequent weeding at an interval of 25 days.	290	6
10	Pre emergence application of Basalin 48 EC for weed control and Carbaryl 4 g/ li of water or neem oil emulsion @ 5% @ 15- 20 days intervals against fruit borer	180	11
11	Application of <i>Bacillus macerans</i> or <i>B. circulans</i> (1.2×10^6 cells/pit) before sowing to control root knot nematode.	160	13
12	Seed treatment with fungal culture of <i>Trichoderma viride</i> (3-4 g/kg of seed)	250	8
13	Continuous cultivation of okra on the same piece of land should be avoided.	310	4

According to the findings of Chandran and Podikunju (2018), majority of the growers had knowledge about spacing and KAU varieties of okra and about only one fourth of the homestead vegetable growers had knowledge about pesticide doses. The scale of knowledge regarding the appropriate season (18 %) for cultivating okra and seed rates (15 %) were also found to be low. This was reflected in their adoption behaviour. A study conducted by Pandey *et al.* (2023) among basmati rice growers in Uttar Pradesh also showed similar findings. While comparing the knowledge and adoption level of various cultivation practices in the package of practice revealed that nearly three fourth of the respondents had low level knowledge and more than three fourth (80.83 %) of the respondents were not adopted the recommended seed treatment practices. Similar findings were also reported by Dave *et al.* (2011). According to this study, majority of the tribal women farmers, who cultivated okra in Rajasthan district maintained correct spacing and conducted weeding twice. More than half of the participant correctly followed the recommended application of farmyard manure and irrigation practices. They also found the rate of adoption of weedicides and other chemicals quiet low among the tribal women okra farmers. Another study conducted by Pandya *et al.* (2013) in Tapi district also reported that nearly three fourth of the okra growers belonged to medium level of adoption of production technologies followed by low level.

Since the respondents were not following certain season, this

indicated a significant demand of okra for household purpose. A significant number of homestead farmers perceived their vegetable garden as a primary source for obtaining fresh and safe products for their families, with the additional benefit of generating income from their homesteads being secondary. The majority of these farmers opted for organic cultivation techniques and refrained from using chemical fungicides or other treatments. One possible explanation for the limited application of fungicides and weedicide might be this preference for organic methods. Although the rate of adoption of biocontrol agents was found to be low. The lack of awareness about biocontrol agents might be the reason. These results highlighted the necessity for creating awareness among homestead growers about adopting integrated pest, disease and nutrient management for ensuring better okra productivity from homesteads. Farmers can benefit from motivational activities like field schools, training groups etc. The aim of farmer training is to improve their skill, knowledge thereby increasing their job efficiency. In this context, the training should focus on various aspects of scientific okra cultivation as it helps to reduce the knowledge and adoption gap that exists (Kubrevi, 2022).

Information seeking behaviour of homestead okra growers

Information seeking behaviour refers to the sources or channels from which the respondents get technological information regarding agriculture and related areas. Based

on the score obtained, the homestead okra growers were categorized into three categories such as, low, medium and high-level information seeking behaviour as shown below:

Table 2: Distribution of okra growers based on their information seeking behaviour (n=120)

Sr. No.	Category	Frequency	Percentage
1	Low	05	4.00
2	Medium	89	74.00
3	High	26	22.00

From the Table 2, it was evident that nearly three fourth (74%) of the homestead okra growers had medium information seeking behaviour followed by high level (22%). Even though the proportion of farmers in the low category was found to be quite low (4%) and still a considerable number of farmers exclusively belonged to the medium category. This occurrence may be attributed to the respondents' limited awareness of available information sources and their failure to actively pursue the diverse information they necessitated. According to Mahapatra (2016), for the availability and accessibility of valid information, there is a stronger demand for agricultural extension programs in India. Mainly due to its ability to promote knowledge sharing and utilisation

among the farming communities. Since, information seeking behaviour has the potential to influence the socioeconomic development of the farming community, these findings indicated that greater attention is required to improve farmers' information seeking behaviour.

This result was in line with the that of Magalada (2008), who conducted a study among the dryland farmers in Karnataka state for measuring entrepreneurial behaviour. According to the findings a most of the dryland farmers had medium level information seeking behaviour with respect to entrepreneurial behaviour. Another study conducted by Kumar *et al.* (2022) was also noted similar findings. The study was conducted for analysing the information seeking behaviour of farmers in different cropping system and found that more than two third of farmers (67%) had medium level information seeking behaviour. Riaz *et al.* (2022), also pointed that more than one third (41%) of the farmers in Punjab had high level of information seeking behaviour followed by one third in medium level category.

Frequency of exposure to various information sources

The exposure to different information sources varies according to person. An attempt was made to identify the widely used information source for homestead growers. The results were given below:

Table 3: Distribution of respondents based on the frequency of exposure to various information sources (n=120)

Sr. No.	Sources	Frequency of exposure		
		Regularly	Occasionally	Never
Media sources				
1	Television	70	30	0
2	Radio	42	28	30
3	Newspapers	88	10	2
4	Agri. literatures	32	46	22
Formal sources				
1	Scientists of KAU	30	60	10
2	B.D.O, A.E.O	20	30	50
Informal sources				
1	Family members, friends and neighbours'	89	10	1

The analysis of Table 3 provided a clear picture of various information sources utilized by the homestead okra growers in Kollam district. Majority of the homestead growers (89%) were utilizing informal sources such as family members, friends and neighbours for getting various agricultural information. With respect to the mass media sources, majority (88%) of the homestead vegetable growers utilized newspaper to gather various farm information on a regular basis. It could be because all of the farmers were educated and newspapers were a low-cost printed material

that was available to everyone on a regular basis, therefore most of the respondents used newspaper for getting farm information. Next to newspaper nearly three fourth (70%) of the homestead growers used Television as a medium to seek various agricultural information on a regular basis. It was also observed that abstaining from the use of television or newspapers for acquiring farming information was notably low compared to radio and agricultural publications. Almost all farmers own a television set, which likely explains the consistent usage. Less than half (42%) of all respondents

regularly engage with radio, while nearly one third (32%) make use of agricultural literature for guidance on homestead cultivation. The frequency of utilizing formal sources was comparatively lower than the other two categories. Within formal sources, a majority of farmers sought advice from KAU scientists rather than B.D.O. or A.E.O. Their social participation nature and the flexibility in seeking information might be the reason for depending more on informal and mass media sources as compared to formal sources.

In essence, it could be concluded that, the majority of the respondents exhibited a moderate level of information-seeking behaviour. Furthermore, the investigation uncovered that common information sources used by the homestead okra cultivators were informal sources followed by mass media platforms like newspapers and television. Evidently, when intending to convey information to homestead okra growers, emphasis should be placed on utilizing these channels for dissemination, facilitating easier access to this community.

These results were similar to that of Naveed and Hassan (2020), who found that the main source for getting information among rural citrus farmers was connected with their experience in farming and other social connections they had. More than half of the farmers, seemed to lack any form of communication, be it written or verbal, with governmental agricultural authorities.

It was also in line with the findings of Riaz *et al.* (2022), which emphasized the prevalence of various information sources for farmers, with mass media being the most frequently utilized followed by interpersonal channels. Similar findings were also reported by Radad *et al.* (2017), who conducted a study to understand their information seeking behaviour among the ordinary and elite saffron farmers in Iran. It was shown that the primary sources of information for both parties were found to be references to previous experiences, interactions with neighbouring saffron growers, communication with informants and consultations with other family members. Same results were also noticed by Phiri *et al.* (2018), who found that majority of the smallholder farmers primarily rely on personal experiences, family members, and friends to obtain information.

Factors affecting the information seeking behaviour of okra growers

The information seeking behaviour differs from person to person. There are certain factors that affect one’s information seeking behaviour, among that their socio-economic profile characteristics has a significant role (Riaz *et al.*, 2022). A correlation analysis was carried out for identifying the factors that affecting the information seeking

behaviour of okra growers (Table 4).

Table 4: Factors affecting the information seeking behaviour of okra growers (n=120)

Sr. No.	Profile characteristics	Correlation coefficient
X ₁	Age	0.154
X ₂	Education	0.266**
X ₃	Occupational status	-0.093
X ₄	Market orientation	0.200*
X ₅	Training	0.016
X ₆	Experience in vegetable cultivation	-0.142
X ₇	Extension agency contact	0.398**
X ₈	Economic motivation	0.212*
X ₉	Family labour utilization	0.071
X ₁₀	Risk orientation	0.384**
X ₁₁	Social participation	0.262**

*Significant at 5 percent level

** Significant at 1 per cent level

By analyzing the table (4), it was noticed that the information seeking behaviour of okra growers in the homesteads were positively correlated with education, extension agency contact, risk orientation, social participation at 1 per cent level of significance and market orientation and economic motivation at 5 per cent level of significance. As compared to illiterates, educated persons were more exposed to a variety of information sources, regardless of medium or language, which could affect their information seeking behaviour. Usually, educated farmers tend to have a progressive outlook and it reflected through their information seeking behaviour. The result also showed that, their active participation in social and various extension activities also had a significant influence on their information seeking behaviour, as they were exposed to latest information in both formal and informal way (Chandran *et al.*, 2024). As the risk associated with agriculture is high, it might motivate the farmers to seek right information at the right time, to make appropriate decisions for minimizing the risk (Roy, 2021). It could be the reason for getting a positive correlation between information seeking behaviour and their risk orientation. The results also revealed the relationship between market orientation and economic motivation with their information seeking behaviour. Farmers with moderate to high level of economic orientation, must have a desire to improve their economic condition. It could motivate them to get information about current market trends, weather data and information related to other risk factors.

CONCLUSION

The findings of the study revealed that, there was a clear necessity to enhance awareness among homestead

farmers regarding the adoption of scientific okra cultivation practices, particularly in integrated pest disease, and nutrient management. The comprehension of information-seeking behaviour holds significant importance for researchers and policymakers in identifying the factors that influence technology adoption and devising strategies to encourage the acceptance of innovations that improve productivity and sustainability. In the study area, majority of homestead okra growers exhibited a moderate level of information-seeking behaviour, predominantly relying on informal and mass media sources for agricultural information. Considering that the adoption rate is directly linked to the awareness and knowledge levels of farmers, a more systematic approach is essential. It is apparent that when aiming to convey information to homestead okra growers, emphasis should be placed on utilizing the most commonly used channels for dissemination, thus facilitating easier access for this community. This underscores the need to consider the information-seeking behaviour of homestead growers to improve their comprehension and familiarity with various scientific cultivation practices for okra production. Extension agents can employ suitable approaches to instigate favourable changes in the knowledge, skills, and attitudes of homestead farmers by grasping how farmers search for, process and apply information.

POLICY IMPLICATIONS

More training and awareness programmes at the grassroot level needs to be organised to improve their skills and knowledge on various aspects of scientific cultivation of okra. The results also pointed towards the need for strengthening the research – extension – farmer linkage for the effective dissemination and utilization of scientific information.

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CONFLICT OF INTEREST

All authors declare that they have no conflict of interest.

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